SEQUENCE LISTING

<110> Johns Hopkins University
LEE, Se-Jin
McPHERRON, Alexandra
GREENSPAN, Daniel S.
PAPPANO, William N.
WOLFMAN, Neil
TOMKINSON, Kathy

<120> METALLOPROTEASE ACTIVATION OF MYOSTATIN, AND METHODS OF MODULATING MYOSTATIN ACTIVITY

<130> JHU1800-3

<150> US 60/486,863
<151> 2003-07-10

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<151> 2002-09-16

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Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
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gtg gaa aaa gag ggg ctg tgt aat gca tgt act tgg aga caa aac act 202
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
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aaa tct tca aga ata gaa gcc att aag ata caa atc ctc agt aaa ctt 250
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

cgt ctg gaa aca gct cct aac atc agc aaa gat gtt ata aga caa ctt 298
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65 70 75 80

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cag agg gat gac agc agc gat ggc tct ttg gaa gat gac gat tat cac      394
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
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gct aca acg gaa aca atc att acc atg cct aca gag tct gat ttt cta      442
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
        115                 120                 125

atg caa gtg gat gga aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct      490
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            260                 265                 270

gat gag cac tca aca gaa tca cga tgc tgt cgt tac cct cta act gtg      922
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

gat ttt gaa gct ttt gga tgg gat tgg att atc gct cct aaa aga tat      970
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aag gcc aat tac tgc tct gga gag tgt gaa ttt gta ttt tta caa aaa     1018
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
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tat cct cat act cat ctg gta cac caa gca aac ccc aga ggt tca gca     1066
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Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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gta gac cgc tgt ggg tgc tca tgagatttat attaagcgtt cataacttcc        1213
Val Asp Arg Cys Gly Cys Ser
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gcacaaagac atgtcatgca tcacagaaaa gcaactactt atatttcaga gcaaattagc   2293

agattaaata gtggtcttaa aactccatat gttaatgatt agatggttat attacaatca   2353

ttttatattt ttttacatga ttaacattca cttatggatt catgatggct gtataaagtg   2413

aatttgaaat ttcaatggtt tactgtcatt gtgtttaaat ctcaacgttc cattatttta   2473

atacttgcaa aaacattact aagtatacca aaataattga ctctattatc tgaaatgaag   2533

aataaactga tgctatctca acaataactg ttacttttat tttataattt gataatgaat   2593
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Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
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Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
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Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
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Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
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Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
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Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
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Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
                245                 250                 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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            20                  25                  30

gtg gaa aaa gag ggg ctg tgt aat gca tgt ttg tgg agg gaa aac act     144
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
        35                  40                  45

aca tcg tca aga cta gaa gcc ata aaa atc caa atc ctc agt aaa ctt     192
Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50                  55                  60

cgc ctg gaa aca gct cct aac atc agc aaa gat gct atc aga caa ctt     240
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80

ttg ccc aag gct cct cca ctc ctg gaa ctg att gat cag ttc gat gtc     288
Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
                85                  90                  95

cag aga gat gcc agc agt gac ggc tcc ttg gaa gac gat gac tac cac     336
Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110

gcc agg acg gaa acg gtc att acc atg ccc acg gag tct gat ctt cta     384
Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
        115                 120                 125

acg caa gtg gaa gga aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct     432
Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
    130                 135                 140

aag ata caa tac aat aaa cta gta aag gcc caa ctg tgg ata tat ctg     480
Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

agg cct gtc aag act cct gcg aca gtg ttt gtg caa atc ctg aga ctc     528
Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175

atc aaa ccc atg aaa gac ggt aca agg tat act gga atc cga tct ctg     576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180                 185                 190

aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg     624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
        195                 200                 205

aag aca gtg ttg cag aac tgg ctc aaa caa cct gaa tcc aac tta ggc     672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
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Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240

ttc cca gaa cca gga gaa gat gga ctg act ccc ttt tta gaa gtc aag     768
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                245                 250                 255

gta aca gac aca cca aaa aga tct agg aga gat ttt ggg ctt gat tgt      816
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            260                 265                 270

gat gaa cac tcc aca gaa tct cga tgc tgt cgt tac cct cta act gtg      864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

gat ttt gaa gct ttt gga tgg gat tgg att att gca cct aaa aga tat      912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300

aag gcc aat tac tgc tct gga gaa tgt gaa ttt gta ttt ttg caa aag      960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

tat cct cat acc cat ctt gtg cac caa gca aac ccc aga ggt tca gcc     1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335

ggc ccc tgc tgt act cct aca aag atg tct cca att aat atg cta tat     1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350

ttt aat ggc gaa gga caa ata ata tac ggg aag att cca gcc atg gta     1104
Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
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Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
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Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
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Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
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Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
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Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
        115                 120                 125

Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
    130                 135                 140

Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175

Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180                 185                 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
        195                 200                 205

Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210                 215                 220

Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240

Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
                245                 250                 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320
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Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
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gcg gtt gat ccg gtg gct ctg gat ggc agt agt cag ccc aca gag aac       96
Ala Val Asp Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
            20                  25                  30

gct gaa aaa gac gga ctg tgc aat gct tgt acg tgg aga cag aat aca      144
Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
        35                  40                  45

aaa tcc tcc aga ata gaa gcc ata aaa att caa atc ctc agc aaa ctg      192
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50                  55                  60

cgc ctg gaa caa gca cct aac att agc agg gac gtt att aag cag ctt      240
Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65                  70                  75                  80

tta ccc aaa gct cct cca ctg cag gaa ctg att gat cag tat gat gtc      288
Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95

cag agg gac gac agt agc gat ggc tct ttg gaa gac gat gac tat cat      336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
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gcc aca acc gag acg att atc aca atg cct acg gag tct gat ttt ctt      384
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
        115                 120                 125

gta caa atg gag gga aaa cca aaa tgt tgc ttc ttt aag ttt agc tct      432
Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
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    130                 135                 140

aaa ata caa tat aac aaa gta gta aag gca caa tta tgg ata tac ttg      480
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

agg caa gtc caa aaa cct aca acg gtg ttt gtg cag atc ctg aga ctc      528
Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
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att aag ccc atg aaa gac ggt aca aga tat act gga att cga tct ttg      576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180                 185                 190

aaa ctt gac atg aac cca ggc act ggt atc tgg cag agt att gat gtg      624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
        195                 200                 205

aag aca gtg ctg caa aat tgg ctc aaa cag cct gaa tcc aat tta ggc      672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210                 215                 220

atc gaa ata aaa gct ttt gat gag act gga cga gat ctt gct gtc aca      720
Ile Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr
225                 230                 235                 240

ttc cca gga cca gga gaa gat gga ttg aac cca ttt tta gag gtc aga      768
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
                245                 250                 255

gtt aca gac aca ccg aaa cgg tcc cgc aga gat ttt ggc ctt gac tgt      816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

gat gag cac tca acg gaa tcc cga tgt tgt cgc tac ccg ctg aca gtg      864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

gat ttc gaa gct ttt gga tgg gac tgg att ata gca cct aaa aga tac      912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300

aaa gcc aat tac tgc tcc gga gaa tgc gaa ttt gtg ttt cta cag aaa      960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

tac ccg cac act cac ctg gta cac caa gca aat ccc aga ggc tca gca     1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335

ggc cct tgc tgc aca ccc acc aag atg tcc cct ata aac atg ctg tat     1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350

ttc aat gga aaa gaa caa ata ata tat gga aag ata cca gcc atg gtt     1104
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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35 40 45

Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
50 55 60

Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65 70 75 80

Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
85 90 95

Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
100 105 110

Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
115 120 125

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130 135 140

Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145 150 155 160

Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
165 170 175

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180 185 190

Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
195 200 205

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Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
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Ile Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr
225                 230                 235                 240

Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
                245                 250                 255

Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285

Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300

Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

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                325                 330                 335

Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350

Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
        355                 360                 365

Val Asp Arg Cys Gly Cys Ser
    370                 375
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<210> 7
<211> 1125
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<400> 7

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atg cat ttt aca cag gtt tta att tct cta agt gta tta att gca tgt      48
Met His Phe Thr Gln Val Leu Ile Ser Leu Ser Val Leu Ile Ala Cys
1               5                   10                  15

ggt cca gtg ggt tat gga gat ata acg gcg cac cag cag cct tcc aca      96
Gly Pro Val Gly Tyr Gly Asp Ile Thr Ala His Gln Gln Pro Ser Thr
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            20                  25                  30

gcc acg gag gaa agc gag ctg tgt tcc aca tgt gag ttc aga caa cac      144
Ala Thr Glu Glu Ser Glu Leu Cys Ser Thr Cys Glu Phe Arg Gln His
        35                  40                  45

agc aag ctg atg aga ctg cat gcc atc aag tcc caa att ctt agc aaa      192
Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
    50                  55                  60

ctc cga ctc aag cag gct cca aac atc agc cgg gac gtg gtc aag cag      240
Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
65                  70                  75                  80

ctg tta ccc aaa gca ccg cct ttg caa caa ctt ctg gat cag tac gat      288
Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
                85                  90                  95

gtt tta gga gat gac agt aag gat gga gct gtg gaa gag gac gat gaa      336
Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
            100                 105                 110

cat gcc acc aca gag acc atc atg acc atg gcc aca gaa cct gac ccc      384
His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
        115                 120                 125

att gtt caa gta gat cgg aaa ccg aag tgt tgc ttt ttc tcc ttc agt      432
Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
    130                 135                 140

ccg aag atc caa gcg aac cgg atc gta aga gcg cag ctc tgg gtt cat      480
Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
145                 150                 155                 160

ctg aga ccg gcg gag gag gcg acc acc gtc ttc tta cag ata tct cgg      528
Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
                165                 170                 175

ctg atg ccc gtt aag gac gga gga aga cac cga ata cga tcc ctg aaa      576
Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
            180                 185                 190

atc gac gtg aac gca gga gtc acg tct tgg cag agt ata gac gta aag      624
Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
        195                 200                 205

cag gtg ctc acg gtg tgg tta aaa caa ccg gag acc aac cga ggc atc      672
Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
    210                 215                 220

gag att aac gca tat gac gcg aag gga aac gac ttg gcc gtc act tca      720
Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
225                 230                 235                 240

acc gag act ggg gag gat gga ctg ctc ccc ttt atg gag gtg aaa ata      768
Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
                245                 250                 255

tca gag ggc cca aaa cga atc cgg agg gac tcc gga ctg gac tgc gat      816
Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
            260                 265                 270
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gag aat tcc tca gag tct cgc tgc tgc agg tac cct ctc act gtg gac      864
Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
        275                 280                 285

ttc gag gac ttt ggc tgg gac tgg att att gct cca aaa cgc tat aag      912
Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
    290                 295                 300

gcg aat tac tgt tca gga gaa tgc gac tac atg tac ctg cag aag tat      960
Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
305                 310                 315                 320

ccc cac acc cat ctg gtg aac aag gcc agt ccg aga gga acg gct ggg     1008
Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
                325                 330                 335

ccc tgc tgc act ccc acc aag atg tct ccc atc aac atg ctt tac ttt     1056
Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
            340                 345                 350

aac ggc aaa gag cag atc atc tac ggc aag atc cct tcg atg gta gta     1104
Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
        355                 360                 365

gac cgc tgt ggc tgc tca tga                                        1125
Asp Arg Cys Gly Cys Ser
    370
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<211> 374
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<213> Danio rerio

<400> 8

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Met His Phe Thr Gln Val Leu Ile Ser Leu Ser Val Leu Ile Ala Cys
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Gly Pro Val Gly Tyr Gly Asp Ile Thr Ala His Gln Gln Pro Ser Thr
            20                  25                  30

Ala Thr Glu Glu Ser Glu Leu Cys Ser Thr Cys Glu Phe Arg Gln His
        35                  40                  45

Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
    50                  55                  60

Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
65                  70                  75                  80

Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
                85                  90                  95
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Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
100 105 110

His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
115 120 125

Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
130 135 140

Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
145 150 155 160

Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
165 170 175

Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
180 185 190

Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
195 200 205

Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
210 215 220

Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
225 230 235 240

Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
245 250 255

Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
260 265 270

Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
275 280 285

Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
290 295 300

Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
305 310 315 320

Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
325 330 335

Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe

340 345 350

Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
355 360 365

Asp Arg Cys Gly Cys Ser
370

<210> 9
<211> 50
<212> PRT
<213> Homo sapiens

<400> 9

Lys Asp Val Ile Arg Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu
1 5 10 15

Leu Ile Asp Gln Tyr Asp Val Gln Arg Asp Asp Ser Ser Asp Gly Ser
20 25 30

Leu Glu Asp Asp Asp Tyr His Ala Thr Thr Glu Thr Ile Ile Thr Met
35 40 45

Pro Thr
50

<210> 10
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<212> PRT
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<220>
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<400> 10

Lys Asp Val Ile Arg Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu
1 5 10 15

Leu Ile Asp Gln Tyr Asp Val Gln Gln Asp Asp Ser Ser Asp Gly Ser
20 25 30

Leu Glu Asp Asp Asp Tyr His Ala Thr Thr Glu Thr Ile Ile Thr Met
35 40 45

Pro Thr
50

<210> 11

<211> 50
<212> PRT
<213> Artificial sequence

<220>
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<400> 11

Lys Asp Val Ile Arg Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu
1 5 10 15

Leu Ile Asp Gln Tyr Asp Val Gln Arg Ala Asp Ser Ser Asp Gly Ser
20 25 30

Leu Glu Asp Asp Asp Tyr His Ala Thr Thr Glu Thr Ile Ile Thr Met
35 40 45

Pro Thr
50

<210> 12
<211> 40
<212> PRT
<213> Homo sapiens

<400> 12

Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr
1 5 10 15

Asp Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp
20 25 30

Tyr His Ala Thr Thr Glu Thr Ile
35 40

<210> 13
<211> 40
<212> PRT
<213> Artificial sequence

<220>
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<400> 13

Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr
1 5 10 15

Asp Val Gln Gln Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp
20 25 30

Tyr His Ala Thr Thr Glu Thr Ile
35 40

<210> 14
<211> 40
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<213> Artificial sequence

<220>
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<400> 14

Gln Leu Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr
1 5 10 15

Asp Val Gln Arg Ala Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp
20 25 30

Tyr His Ala Thr Thr Glu Thr Ile
35 40

<210> 15
<211> 30
<212> PRT
<213> Homo sapiens

<400> 15

Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val Gln Arg Asp
1 5 10 15

Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His Ala
20 25 30

<210> 16
<211> 30
<212> PRT
<213> Artificial sequence

<220>
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<400> 16

Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val Gln Gln Asp
1 5 10 15

Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His Ala
20 25 30

<210> 17

<211> 30
<212> PRT
<213> Artificial sequence

<220>
<223> Mutant peptide portion of human myostatin

<400> 17

Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val Gln Arg Ala
1 5 10 15

Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His Ala
20 25 30

<210> 18
<211> 20
<212> PRT
<213> Homo sapiens

<400> 18

Glu Leu Ile Asp Gln Tyr Asp Val Gln Arg Asp Asp Ser Ser Asp Gly
1 5 10 15

Ser Leu Glu Asp
20

<210> 19
<211> 20
<212> PRT
<213> Artificial sequence

<220>
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<400> 19

Glu Leu Ile Asp Gln Tyr Asp Val Gln Gln Asp Asp Ser Ser Asp Gly
1 5 10 15

Ser Leu Glu Asp
20

<210> 20
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<212> PRT
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<400> 20

Glu Leu Ile Asp Gln Tyr Asp Val Gln Arg Ala Asp Ser Ser Asp Gly

1 5 10 15

Ser Leu Glu Asp
20

<210> 21
<211> 10
<212> PRT
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<400> 21

Tyr Asp Val Gln Arg Asp Asp Ser Ser Asp
1 5 10

<210> 22
<211> 10
<212> PRT
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<220>
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<400> 22

Tyr Asp Val Gln Gln Asp Asp Ser Ser Asp
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 23

Tyr Asp Val Gln Arg Ala Asp Ser Ser Asp
1 5 10